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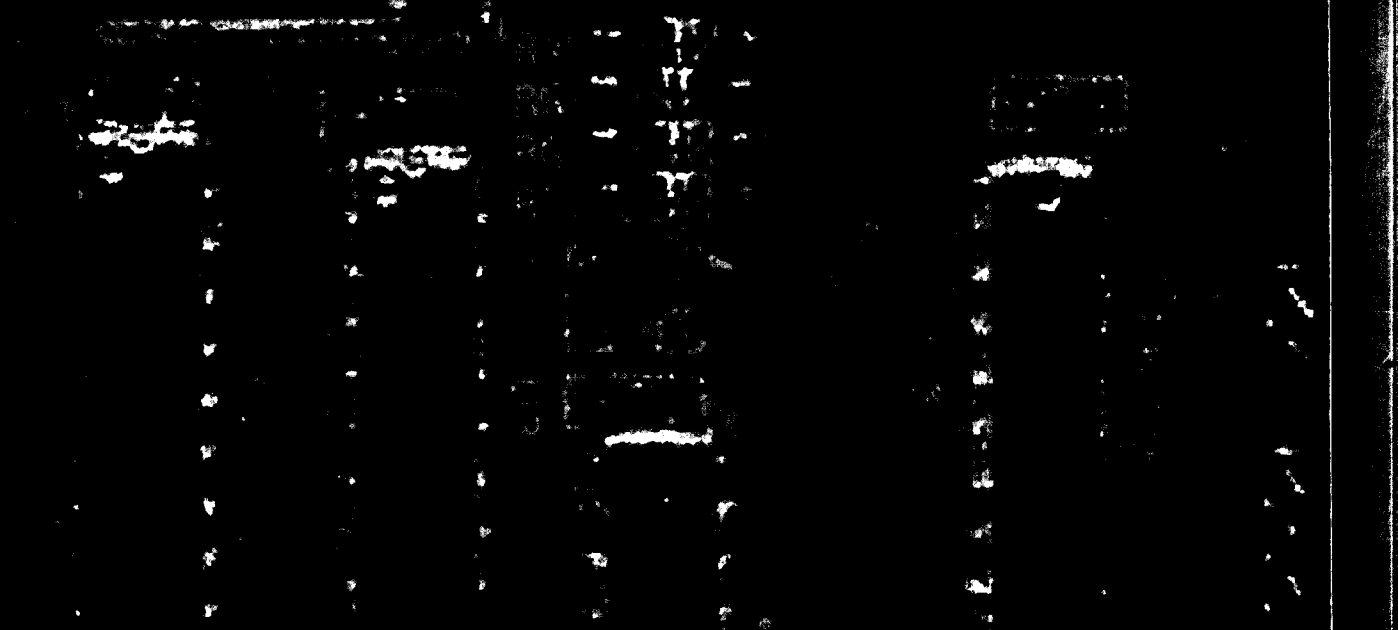
Electronic Circuit Guidebook

Volume 5

DIGITAL ELECTRONICS



Joseph J. Carr

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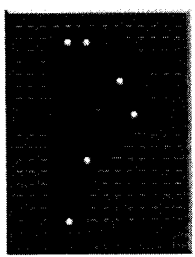
Volume 5:
Digital Electronics

Written By
Joseph J. Carr



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Preface

Have you noticed the "Digital Revolution" in electronics? If you haven't, then you must have been in suspended animation for the past twenty years or so, and certainly since the early 1980s. Nearly everything electronic is "coming up digital."

Digital electronics includes personal computers, large computers, hand-held calculators, industrial instruments, test equipment, household appliances, and a host of other devices. Even traditionally analog devices such as television sets and radio receivers contain a large amount of digital circuitry. Some products are made better using the digital implementation, while still others are made either possible or affordable by the use of digital circuitry.

This book is about the basics of digital electronics. It is not a computer book, but rather it is about the fundamental circuits that make up not only computers, but all digital products. It joins a series of other titles in the Electronic Circuit Guidebook series in providing you with encapsulated practical information about specific areas of electronics technology.

Unlike certain other current books on digital circuits, this book will not spend any time on obsolete digital devices. At one time, diode-transistor-logic (DTL) and resistor-transistor-logic (RTL) were current. Even at relatively late dates covering these

families was reasonable because repair technicians occasionally encountered them. However, those devices have faded so far into the past that it no longer makes sense to cover them at all.

This text is not bound to any particular logic family (we examine the modern versions), but rather it discusses the logic elements from a functional point of view. That is, we will look at logic gates, flip-flops, counters and the ways they are combined to make practical circuits.

—Joseph J. Carr, MSEE